

AMENDMENTS TO THE CLAIMS***Listing of Claims:***

1. (Currently Amended) A method for depositing an inorganic material from a reactive solution onto a substrate, comprising:
chemically treating said substrate to activate growth of said inorganic material;
immersing said substrate into said reactive solution;
using a monitoring process to determine when said reactive solution becomes depleted; and
regenerating said reactive solution to allow for continuous growth of said inorganic material onto said substrate, wherein the monitoring process comprises pH measurements, spectrographic analysis or both.
2. (Original) The method of claim 1 wherein the inorganic material is a silicon oxide.
3. (Original) The method of claim 1 wherein the substrate is a silicon wafer.
4. (Original) The method of claim 1 wherein the substrate is a component of a semiconductor chip.
5. (Original) The method of claim 1 wherein the substrate is a component of a nano-based chip.
6. (Original) The method of claim 1 wherein the inorganic material forms an optical waveguide.
7. (Original) The method of claim 1 wherein the reactive solution is comprised of H₂SiF₆ and H₂O.

8. (Original) The method of claim 1 wherein the reactive solution is regenerated by the addition of silicon.
- 9-15. (Canceled)
16. (Previously Presented) The method of claim 1 wherein the chemically treating the substrate further comprises immersing the substrate in a solution of ammonium hydroxide, hydrogen peroxide, and water.
17. (Previously Presented) The method of claim 16 wherein the ammonium hydroxide, hydrogen peroxide, and water is in a ratio of about 1:1:6.
18. (Previously Presented) The method of claim 17 wherein the chemically treating the substrate further comprises immersing the substrate in a solution of hydrochloric acid, hydrogen peroxide, and water.
19. (Previously Presented) The method of claim 18 wherein the hydrochloric acid, hydrogen peroxide, and water is in a ratio of about 1:1:5.
20. (Previously Presented) The method of claim 19 wherein the immersions of the chemical treatment are carried out at a temperature of about 60 to 80 °C for about 5 minutes.
21. (Previously Presented) The method of claim 1 wherein the regenerating the reactive solution further comprises reducing the amount of hydrofluoric acid in the reactive solution.
22. (Previously Presented) The method of claim 21 wherein the hydrofluoric acid is reduced via contact with silicon oxide.
23. (Previously Presented) The method of claim 22 wherein the hydrofluoric acid is converted to H_2SiF_6 .

24. (Previously Presented) The method of claim 22 further comprising monitoring depletion of the silica.
25. (Previously Presented) The method of claim 24 further comprising replenishing the silica upon depletion.
26. (Previously Presented) The method of claim 1 wherein the immersing the substrate into the reactive bath is carried out at room temperature.
27. (Previously Presented) The method of claim 1 wherein the growth of the inorganic material on the substrate is homogeneous.
28. (New) A method for depositing an inorganic material from a reactive solution onto a substrate, comprising:
chemically treating said substrate to activate growth of said inorganic material;
immersing said substrate into said reactive solution, and wherein said reactive solution is not heated, regenerating said reactive solution to allow for continuous growth of said inorganic material onto said substrate.